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WAGNER, MURABITO & HAO LLP			SHAPIRO, LEONID	
Third Floor			ART UNIT	
Two North Market Street			PAPER NUMBER	
San Jose, CA 95113			2673	

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/773,136

Applicant(s)

GETTEMY, SHAWN

Examiner

Leonid Shapiro

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-13 and 15-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 8-9, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirola et al. (US Patent No. 6,415,138 B2) in view of Lueders (US Patent No. 6,067,074) and Post et al. (US Patent 6,210,771 B1).

As to claim 1, Sirola et al. teaches a user interface for a portable electronic device (See Fig. 32, items 3a-3d, Col. 4, Lines 38-48), user interface comprising:

a) a display panel, display panel forming a first layer of user interface (See Fig. 1, item 5, in description See Col. 4, Lines 60-63); and

b) a touch sensor (flexible foil-like activation means) coupled with display panel, flexible foil-like activation means forming a second layer of user interface (See Figs. 1-4, items 3,5, Col. 5, Lines 1-5 and Col. 6, Lines 33-43), wherein flexible foil-like activation means is operable to register a position where contact is made with a surface of user interface, wherein a particular position on user interface is translated into a particular command for controlling portable electronic device (See Figs. 1-2, items 3,5,3a-3d, in description See Col. 4, Lines 36-60).

Sirola et al. does not show flexible display panel.

Lueders teaches flexible display to actuate the underlying switch of the keyboard (See Fig. 3, item 36, See Col. 4, Lines 48-50 and Col. 5, Lines 9-18).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the flexible display panel as shown by Lueders in the Sirola et al. apparatus in order to have a control panel with automatically change the switch identification as the operator progresses in performing a programmed function (See Col. 1, Lines 58-62 in the Lueders reference). Notice, that in modified Lueders and Sirola et al. apparatus the flexible display panel located above touch panel replaced keyboard of the Lueders apparatus with touch panel of the Sirola et al. device.

Sirola et al. and Lueders do not show flexible touch sensor, wherein flexible touch sensor comprises a fabric.

Post et al. teaches touch panel with flexible spacers, wherein flexible touch sensor comprises a fabric (See Fig. 4, items 400, 405, 410, from Col. 8, Line 62 to Col. 9, Line 9 and Col. 9, Lines 58-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement teaching of Post et al. into Lueders and the Sirola et al. system in order to use fabrics as an integral elements which could be folded, rolled, or wadded up (See from Col. 1, Line 61 to Col. 2, Line 8 in the Post et al. reference).

As to claim 20, Sirola et al. teaches a method for providing a user interface for a portable computer system (See Fig. 32, items 3a-3d, Col. 4, Lines 38-48), method comprising the steps of:

a) displaying images and characters to user via a display panel (See Figs. 1-2, items 3,5,3a-3d, in description See Col. 4, Lines 36-60),

b) receiving input via a touch sensor (foil-like activation means) is operable to register a position where contact is made with a surface of display panel (See Figs. 1-2, items 3,5,3a-3d, in description See Col. 4, Lines 36-60);

c) translating input into a particular command for controlling portable electronic device (See Fig. 2, items 3,5,3a-3d, in description See Col. 4, Lines 48-60)

Sirola et al. does not show flexible display panel.

Lueders teaches flexible display to actuate the underlying switch of the keyboard (See Fig. 3, item 36, See Col. 5, Lines 9-18 and Col. 5, Lines 9-18).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the flexible display panel as shown by Lueders in the Sirola et al. method in order to have a control panel with automatically change the switch identification as the operator progresses in performing a programmed function (See Col. 1, Lines 58-62 in the Lueders reference). Notice, that in modified Lueders and Sirola et al. apparatus the flexible display panel located above touch panel which replaced keyboard of the Lueders apparatus with touch panel of the Sirola et al. device.

Sirola et al. and Lueders do not show flexible touch sensor, wherein flexible touch sensor comprises a fabric.

Post et al. teaches touch panel with flexible spacers, wherein flexible touch sensor comprises a fabric (See Fig. 4, items 400, 405, 410, from Col. 8, Line 62 to Col. 9, Line 9 and Col. 9, Lines 58-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement teaching of Post et al. into Lueders and the Sirola et al. system

in order to use fabrics as an integral elements which could be folded, rolled, or wadded up (See from Col. 1, Line 61 to Col. 2, Line 8 in the Post et al. reference).

As to claims 2, 21 Sirola et al. teaches touch sensor (See Fig.4, item 5, in description See Col. 6, Lines 34-43) and Lueders teaches flexible display panel is disposed between flexible touch sensor (keyboard) and user (See Fig. 3, items 36, 28, in description See Col. 5, Lines 9-19).

As to claims 3, 22 Sirola et al. teaches flexible display panel is disposed beneath flexible touch sensor, wherein flexible touch sensor is disposed between flexible display panel and a user (See Figs. 1-4, items 5,3, in description See Col. 5, Lines 1-5).

As to claim 8, in modified Sirola et al. and Lueders apparatus a support shelf structure is disposed beneath flexible touch sensor structure (Col. 6, Lines 29-43 in Sirola et al. reference) or PCB 26 (See Fig. 3, item 26 in Lueders reference).

As to claims 9, Sirola et al. and Lueders do not show an additional instance of flexible touch sensor, additional flexible touch sensor disposed beneath a support shelf, additional instance of flexible touch sensor coupled to user interface; and an additional instance flexible display panel, additional flexible display panel disposed beneath additional flexible touch sensor, additional instance of flexible touch sensor coupled to user interface, whereby two sided flexible display functionality is provided to the user interface.

Since modified Sirola et al. and Lueders apparatus provided instance of flexible touch sensor, flexible touch sensor disposed beneath a support shelf, instance of

flexible touch sensor coupled to user interface; and an instance flexible display panel, flexible display panel disposed beneath flexible touch sensor, I instance of flexible touch sensor coupled to user interface, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement additional flexible touch sensor and flexible display panel in the Sirola et al. and Lueders apparatus in order to provide two sided functionality to user interface similarly to the use of the cover transparent flexible, touch panel (foil-like activation means) in the Sirola et al. reference (See Abstract).

3. Claims 10-13, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikinis et al. (US Patent No.5,634,080) in view of Lueders and Post et al.

As to claim 10, Kikinis et al. teaches a portable computer system comprising:

a) a bus (See Fig. 3, items 17,40, in description See Col. 8, Lines 26-65);

b) a memory device coupled with the bus (See Fig. 3, items 13,17, in description See Col. 8, Lines 22-30);

c) a processor coupled with bus (See Fig. 3, items 11, 17, in description See Col. 8, Lines 8-20);

d) a display panel coupled with bus, display panel forming a first layer of a user interface (See Fig. 3, item 25, in description See Col. 9, Lines 24-25); and

e) a touch sensor coupled with flexible display panel, touch sensor forming a second layer of a user interface (See Fig. 3, item 27, in description See Col. 9, Lines 24-25).

Kikinis et al. does not show flexible display panel.

Lueders teaches flexible display to actuate the underlying switch of the keyboard (See Fig. 3, item 36, See Col. 5, Lines 9-18 and Col. 5, Lines 9-18).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the flexible display panel as shown by Lueders in the Kikinis et al. apparatus in order to have a control panel with automatically change the switch identification as the operator progresses in performing a programmed function (See Col. 1, Lines 58-62 in the Lueders reference). Notice, that in modified Lueders and Sirola et al. apparatus the flexible display panel located above touch panel which replaced keyboard of the Lueders apparatus with touch panel of the Sirola et al. device.

Sirola et al. and Lueders do not show flexible touch sensor, wherein flexible touch sensor comprises a fabric.

Post et al. teaches touch panel with flexible spacers, wherein flexible touch sensor comprises a fabric (See Fig. 4, items 400, 405, 410, from Col. 8, Line 62 to Col. 9, Line 9 and Col. 9, Lines 58-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement teaching of Post et al. into Lueders and the Sirola et al. system in order to use fabrics as an integral elements which could be folded, rolled, or wadded up (See from Col. 1, Line 61 to Col. 2, Line 8 in the Post et al. reference).

As to claim 11, Sirola et al. teaches the touch sensor is operable to register position where contact made with a surface of display panel, wherein a particular



position on display panel is translated into a particular command for controlling portable electronic device (See Fig. 2, items 3a-d, in description See Col. 4, Lines 39-48).

As to claim 12, Sirola et al. teaches display panel is disposed beneath touch sensor, wherein touch sensor is disposed between display panel and a user (See Figs. 1-4, items 5,3, in description See Col. 5, Lines 1-5).

As to claim 13, Kikinis et al. teaches flexible display panel is disposed beneath flexible touch sensor, wherein flexible touch sensor is disposed between display panel and a user (See Fig. 3, items 25,27, in description See Col. 9, Lines 24-25).

Kikinis et al. does not show flexible display panel.

Lueders teaches flexible display to actuate the underlying switch of the keyboard (See Fig. 3, item 36, in description See Col. 5, Lines 9-18). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the flexible display panel as shown by Lueders in the Kikinis et al. apparatus in order to satisfy the need in a small and inexpensive PDA (See Col. 2, Lines 18-21 in the Kikinis et al. reference).

As to claim 18, in modified Kikinis et al. and Lueders apparatus a support shelf structure is disposed beneath flexible touch sensor structure (Col. 2, item 36, in description See Col. 7, Lines 43-60 in Kikinis et al. reference) or PCB 26 (See Fig. 3, item 26 in Lueders reference).

As to claims 19, Kikinis et al. and Lueders do not show an additional instance of flexible touch sensor, additional flexible touch sensor disposed beneath a support

shelf, additional instance of flexible touch sensor coupled to user interface; and an additional instance flexible display panel, additional flexible display panel disposed beneath additional flexible touch sensor, additional instance of flexible touch sensor coupled to user interface, whereby two sided flexible display functionality is provided to the user interface. Since modified Kikinis et al. and Lueders apparatus provided instance of flexible touch sensor, flexible touch sensor disposed beneath a support shelf, instance of flexible touch sensor coupled to user interface; and an instance flexible display panel, flexible display panel disposed beneath flexible touch sensor, I instance of flexible touch sensor coupled to user interface, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement additional flexible touch sensor and flexible display panel in the Kikinis et al. and Lueders apparatus in order to provide two sided functionality to user interface.

4. Claims 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirola et al., Lueders and Post et al. as aforementioned in claims 1 in view of Colgan et al. (US Patent No. 6,483,498 B1).

Sirola et al., Lueders and Post et al. do not show flexible touch sensor (fabric) disposed within flexible display panel, such that flexible touch sensor is internal to flexible display panel.

Colgan et al. teaches display with integrated resistive touch sensor (See Fig. 2, items 24,30,26, in description See from Col. 4, Line 28 to Col. 5, Line 40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement integrated resistive touch sensor as shown by Colgan et al. in the Sirola et al., Lueders and Post et al. apparatus in order to implement display lighter and thinner than conventional devices and provides little or no additional attenuation of light emitted from the display (See Col. 2, Lines 60-64 in the Colgan et al. reference).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kikinis et al., Lueders and Post et al. as aforementioned in claim 10 in view of Colgan et al.

Kikinis et al., Lueders and Post et al. do not show flexible touch sensor (fabric) disposed within flexible display panel, such that flexible touch sensor is internal to flexible display panel.

Colgan et al. teaches display with integrated resistive touch sensor (See Fig. 2, items 24, 30, 26, in description See from Col. 4, Line 28 to Col. 5, Line 40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement integrated resistive touch sensor as shown by Colgan et al. in the Kikinis et al., Lueders and Post et al. apparatus in order to implement display lighter and thinner than conventional devices and provides little or no additional attenuation of light emitted from the display (See Col. 2, Lines 60-64 in the Colgan et al. reference).

6. Claims 7, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirola et al., Lueders and Post et al. as aforementioned in claims 1, 20 in view of Lui et al. (US Patent No. 6,256,009 B1).

Sirola et al., Lueders and Post et al. do not show the electronic paper (ink) as the fabrication technology.

Lui et al teaches electronic ink technology employed in entering data written by hand directly on screen to computer (See Fig.2, items 32,62, in description See Col. 4, Lines 10-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the electronic paper (ink) as shown by Lui in the Sirola et al., Lueders and Post et al. apparatus for providing a user interface in order to receive pen movements as digital ink, and display the ink on the screen as the input (See Col. 1, Lines 29-31 in the Lui et al. reference).

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable under 35 U.S.C. 103(a) as being unpatentable over Kikinis et al., Lueders and Post et al. as aforementioned in claim 10 in view of Lui et al.

Kikinis et al., Lueders and Post et al. do not show the electronic paper (ink) as the fabrication technology.

Lui et al teaches electronic ink technology employed in entering data written by hand directly on screen to computer (See Fig.2, items 32,62, in description See Col. 4, Lines 10-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the electronic paper (ink) as shown by Lui in Kikinis et al., Lueders and Post et al. apparatus for providing a user interface in order to receive pen movements

as digital ink, and display the ink on the screen as the input (See Col. 1, Lines 29-31 in the Lui et al. reference).

8. Claims 6, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sirola et al., Lueders and Post et al. as aforementioned in claims 1,20 in view of Sandbach (US Patent No. 6,333,736 B1).

Sirola et al., Lueders and Post et al. do not show fabric comprises conductive fibers, conductive fibers adapted to conduct electrical impulses responsive to contact with user interface for the touch sensor.

Sandbach teaches fabric comprises conductive fibers, conductive fibers adapted to conduct electrical impulses responsive to contact with user interface for the touch sensor (See Fig.4, items 107-108, 111-112, in description See Col. 7, Lines 4-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention fabric comprises conductive fibers, conductive fibers adapted to conduct electrical impulses responsive to contact with user interface for the touch sensor as shown by Sandbach in Sirola et al., Lueders and Post et al. apparatus for providing a user interface in order to detect the position of mechanical interaction in a sensor constructed from fabric, wherein a substantially constant electrical current is established through element (See from Col. 1, Line66 to Col. 2, Line 2 in the Sandbach reference).

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kikinis et al., Lueders and Post et al. as aforementioned in claim 10 in view of Sandbach).

Kikinis et al., Lueders and Post et al. do not show fabric comprises conductive fibers, conductive fibers adapted to conduct electrical impulses responsive to contact with user interface for the touch sensor.

Sandbach teaches fabric comprises conductive fibers, conductive fibers adapted to conduct electrical impulses responsive to contact with user interface for the touch sensor (See Fig.4, items 107-108, 111-112, in description See Col. 7, Lines 4-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention fabric comprises conductive fibers, conductive fibers adapted to conduct electrical impulses responsive to contact with user interface for the touch sensor as shown by Sandbach in Kikinis et al., Lueders and Post et al. apparatus for providing a user interface in order to detect the position of mechanical interaction in a sensor constructed from fabric, wherein a substantially constant electrical current is established through element (See from Col. 1, Line 66 to Col. 2, Line 2 in the Sandbach reference).

### ***Response to Amendments***

10. Applicant's arguments filed on 08.23.04 with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

### ***Telephone inquire***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 703-305-5661. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ls 11.30.04



**VIJAY SHANKAR**  
**PRIMARY EXAMINER**